

Use the information below to label your diagram of the Haber process.

- Label the boxes with names of materials and processes.
- The diamonds should contain the values for temperature and pressure.
- Label any arrows that show things being recycled

Nitrogen gas from the air and hydrogen gas produced from methane is passed into a compressor. This raises the pressure of the gases to around 250 atm (atmospheres). The compressed gases pass into the reaction chamber. Here they pass over a finely-divided iron catalyst at a temperature of around 450°C. Here the gases react to form a small percentage of ammonia gas. The hot materials pass out of the reaction chamber and through a heat exchanger.

In this section they are cooled and the extracted heat is recycled to warm up the gases as they enter the reaction chamber. From the heat exchanger the ammonia, hydrogen and nitrogen pass into a condenser. The ammonia turns to a liquid and is sent into a storage vessel.

Any unreacted hydrogen and nitrogen are recycled back into the reaction chamber to make more ammonia.

